OBSERVATIONS & RECOMMENDATIONS

After reviewing data collected from **CRYSTAL LAKE, GILMANTON** the program coordinators recommend the following actions.

FIGURE INTERPRETATION

- Figure 1: These graphs illustrate concentrations of chlorophyll-a in the water column. Algae are microscopic plants that are a natural part of lake ecosystems. Algae contain chlorophyll-a, a pigment necessary for photosynthesis. A measure of chlorophyll-a can indicate the abundance of algae in a lake. The historical data (the bottom graph) show a stable in-lake chlorophyll-a trend. Average concentrations in Crystal Lake remain below the New Hampshire mean for chlorophyll-a. Chlorophyll-a concentrations increased as the summer progressed possibly due to an increase in rainfall, which caused excess nutrients to be washed into the lake from the watershed. While algae are present in all lakes, an excess amount of any type is not welcomed. Concentrations can increase when there are external and internal sources of phosphorus, which is the nutrient algae depend upon for growth. It's important to continue the education process and keep residents aware of the sources of phosphorus and how it influences lake quality.
- Figure 2: Water clarity is measured by using a Secchi disk. Clarity, or transparency, can be influenced by such things as algae, sediments from erosion, and natural colors of the water. The graphs on this page show historical and current year data. The lower graph shows a *fairly stable* trend in lake transparency. The clarity of the lake also increased as the summer progressed, and it seems that the increase in chlorophyll-a concentrations did not negatively affect the transparency of the lake. The average clarity readings were above the state mean. The 2000 sampling season was considered to be wet and, therefore, average transparency readings are expected to be slightly lower than last year's readings. Higher amounts of rainfall usually cause more eroding of sediments into the lake and streams, thus decreasing clarity.
- Figure 3: These figures show the amounts of phosphorus in the epilimnion (the upper layer in the lake) and the hypolimnion (the lower layer); the inset graphs show current year data. Phosphorus is the limiting nutrient for plants and algae in New Hampshire waters.

Too much phosphorus in a lake can lead to increases in plant growth over time. These graphs show a *stable* trend for in-lake phosphorus levels. The average hypolimnetic phosphorus concentration was the lowest the lake has ever experienced. The slight spike in phosphorus concentrations in August seems to be due to bottom sediment contaminating the sample, since the turbidity was unusually high at that time. The lower phosphorus concentrations this season are a positive sign for the lake, and continued monitoring will help to identify unwanted sources of the nutrient before it enters the lake. Both layers had average phosphorus levels less than the state One of the most important approaches to reducing phosphorus levels is educating the public. Humans introduce phosphorus to lakes by several means: fertilizing lawns, septic system failures, and detergents containing phosphates are just a few. Keeping the public aware of ways to reduce the input of phosphorus to lakes means less productivity in the lake. Contact the VLAP coordinator for tips on educating your lake residents or for ideas on testing your watershed for phosphorus inputs.

OTHER COMMENTS

- ➤ The conductivity levels at many of the sampling sites were reduced from last year's results (Table 6). The historical data show conductivity has been low since monitors began testing Crystal Lake as part of the VLAP in 1989.
- Please note in July the phosphorus levels of the epilimnion, hypolimnion, and Covered Bridge Bk were found to be less than 5 μg/L. The NHDES Laboratory Services adopted a new method of analyzing total phosphorus this year and the lowest value that can be recorded is less than 5 μg/L. We would like to remind the association that a reading of 5 μg/L is considered low for New Hampshire's waters.
- ➤ Nat's Bridge Bk experienced one of its lowest average phosphorus concentrations this year (Table 8). Although nutrient levels in this tributary remain in the high range for New Hampshire waters, the reduction proves to be a positive sign. The association should consider bracketing the inlet to determine the source of nutrients. Contact the VLAP Coordinator at (603) 271-2658 or e-mail to vlap@des.state.nh.us for help with this endeavor.
- > The Brook and Wood Bridge Bk both had *the lowest* recorded mean values for total phosphorus recorded since VLAP monitoring began (Table 8). Historically, both sites have had results above 50 μg/L.
- ➤ The dissolved oxygen at the bottom of the lake was slightly reduced in July (Table 9), but not to the levels observed in the recent past (Table

10). Low oxygen levels can lead to a release of phosphorus from the bottom sediments.

USEFUL RESOURCES

Anthropogenic Phosphorus and New Hampshire Waterbodies, NHDES-WSPCD-95-6, NHDES Booklet, (603) 271-3503

Vegetated Phosphorus Buffer Strips, NH Lakes Association pamphlet, (603) 226-0299 or www.nhlakes.org

Clean Water in Your Watershed. Terrene Institute, 1993. (703) 661-1582.

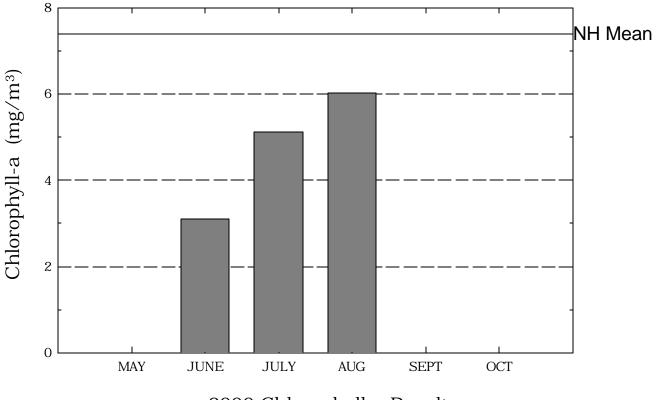
Weed Watchers: An Association to Halt the Spread of Exotic Aquatic Plants, WD-BB-4, NHDES Fact Sheet, (603) 271-3503 or www.state.nh.us

Lake Protection Tips: Some Do's and Don'ts for Maintaining Healthy Lakes, WD-BB-9, NHDES Fact Sheet, (603) 271-3503 or www.state.nh.us

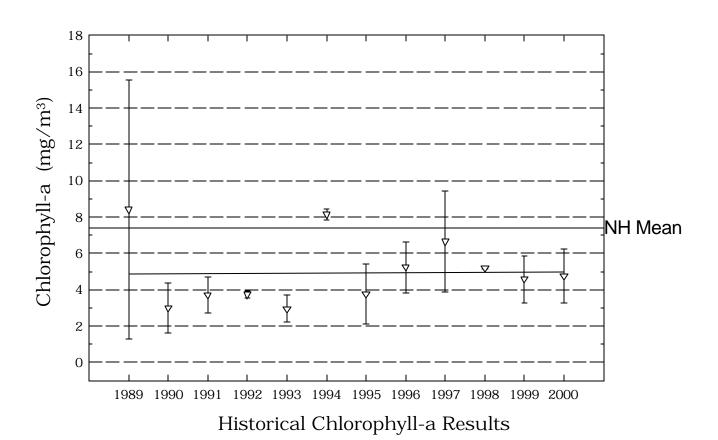
Answers to Common Lake Questions, NHDES-WSPCD-92-12, NHDES Booklet, (603) 271-3503.

Crystal Lake, Gilmanton

Figure 1. Monthly and Historical Chlorophyll-a Results

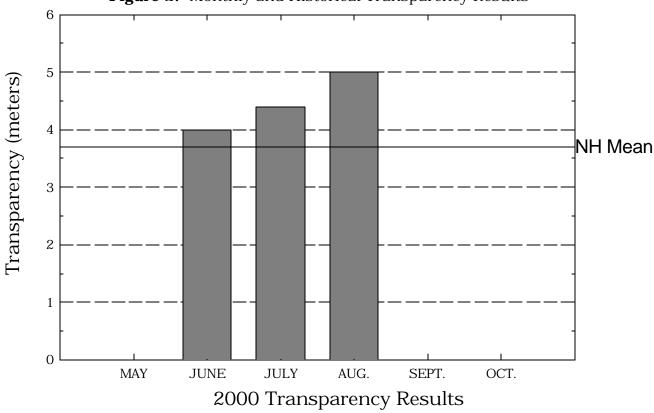


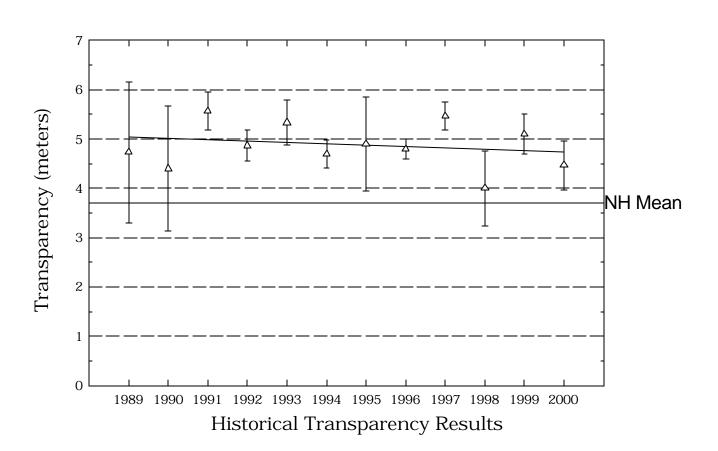
2000 Chlorophyll-a Results



Crystal Lake, Gilmanton

Figure 2. Monthly and Historical Transparency Results





Crystal Lake, Gilmanton

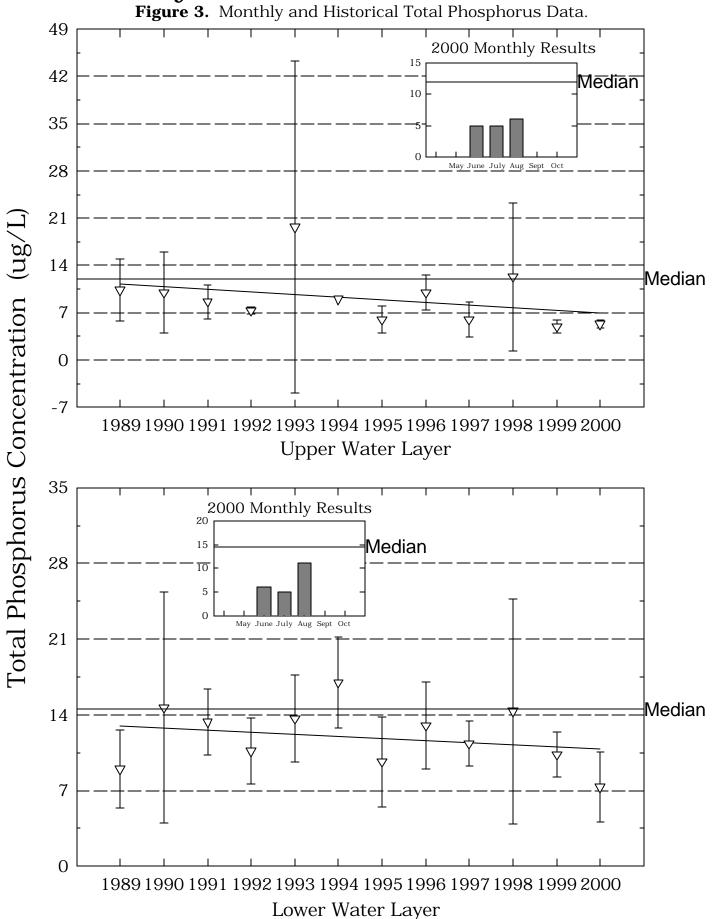


Table 1. CRYSTAL LAKE

GILMANTON

Chlorophyll-a results (mg/m $\,$) for current year and historical sampling periods.

Year	Minimum	Maximum	Mean
1989	4.19	16.67	8.41
1990	2.01	4.56	2.98
1991	2.73	4.74	3.70
1992	3.62	3.98	3.75
1993	2.18	3.63	2.95
1994	4.64	8.35	6.98
1995	2.18	5.45	3.76
1996	4.03	6.78	5.24
1997	4.01	9.55	6.65
1998	5.14	5.31	5.20
1999	3.58	6.05	4.57
2000	3.11	6.02	4.75

Table 2.

CRYSTAL LAKE GILMANTON

Phytoplankton species and relative percent abundance.

Summary for current and historical sampling seasons.

Date of Sample	Species Observed	Relative % Abundance
06/28/1989	ASTERIONELLA	73
00 /00 /1000	GED ATHLIA	00
08/03/1989	CERATIUM A CTEDIONIEL LA	30
	ASTERIONELLA TABELLARIA	20 15
	IADELLAMA	13
06/21/1990	ASTERIONELLA	54
	UROGLENOPSIS	32
06/10/1991	TABELLARIA	35
00/10/1991	ANABAENA	16
	SYNURA	16
07/20/1992	ASTERIONELLA	66
	DINOBRYON	17
	CERATIUM	11
07/08/1993	RHIZOSOLENIA	38
	CHRYSOSPHAERELLA	34
08/28/1993	COELOSPHAERIUM	31
007 207 1000	MICROCYSTIS	24
	CERATIUM	17
07/26/1994	GLEOCAPSA	16
	TABELLARIA	14
	SYNURA	13
07/24/1995	DINOBRYON	47
	ASTERIONELLA	18
	SYNURA	11
07/09/1996	ASTERIONELLA	20
	RHIZOSOLENIA	16
	SYNURA	11
08/05/1997	DINOBRYON	59
	CHRYSOSPHAERELLA	17
	RHIZOSOLENIA	12

Table 2.

CRYSTAL LAKE

GILMANTON

Phytoplankton species and relative percent abundance.

Summary for current and historical sampling seasons.

Date of Sample	Species Observed	Relative % Abundanc
07/27/1998	RHIZOSOLENIA	64
	CHRYSOSPHAERELLA	10
	SYNURA	6
07/20/1999	TABELLARIA	25
	DINOBRYON	21
	CHRYSOSPHAERELLA	19
07/13/2000	CHRYSOSPHAERELLA	34
	DINOBRYON	25
	RHIZOSOLENIA	20

Table 3.

CRYSTAL LAKE GILMANTON

Summary of current and historical Secchi Disk transparency results (in meters).

Year	Minimum	Maximum	Mean
1989	3.5	6.3	4.7
1990	3.5	5.3	4.4
1991	5.3	6.0	5.5
1992	4.5	5.1	4.8
1993	4.8	5.6	5.3
1994	4.5	4.9	4.7
1995	3.8	5.5	4.9
1996	4.6	5.0	4.8
1997	5.3	5.8	5.4
1998	3.3	4.8	4.0
1999	4.7	5.5	5.1
2000	4.0	5.0	4.4

Table 4.

CRYSTAL LAKE
GILMANTON

Station	Year	Minimum	Maximum	Mean
COVERED BRIDGE BK				
		0.50	0.07	
	1989	6.57	6.97	6.74
	1990	6.63	7.00	6.83
	1991	6.77	7.08	6.90
	1992	6.70	6.98	6.85
	1993	6.88	6.93	6.90
	1994	6.62	6.90	6.78
	1995	6.85	7.02	6.93
	1996	6.52	6.65	6.60
	1997	6.62	6.85	6.74
	1998	6.38	6.52	6.46
	1999	6.64	6.74	6.68
	2000	6.64	6.66	6.65
DAM OUTLET				
	1994	6.67	6.67	6.67
EPILIMNION				
	1989	6.71	7.01	6.80
	1990	6.72	6.93	6.80
	1991	6.75	6.84	6.81
	1992	6.85	6.92	6.88
	1993	6.58	6.92	6.69
	1994	6.63	6.77	6.71
	1995	6.72	7.03	6.83
	1996	5.97	6.60	6.26
	1997	6.52	6.94	6.71
				

Table 4.

CRYSTAL LAKE
GILMANTON

Station	Year	Minimum	Maximum	Mean
	1998	6.49	6.64	6.56
	1999	6.43	6.82	6.64
	2000	6.59	6.78	6.68
HYPOLIMNION				
	1989	5.93	6.21	6.03
	1990	5.96	6.23	6.06
	1991	6.10	6.25	6.19
	1992	6.10	6.19	6.16
	1993	6.05	6.19	6.11
	1994	5.87	6.09	5.99
	1995	5.97	6.45	6.12
	1996	5.79	5.93	5.84
	1997	6.01	6.02	6.02
	1998	5.84	5.94	5.88
	1999	5.95	6.33	6.08
	2000	5.96	6.09	6.00
JOHN BURDETTE				
	1991	6.82	6.82	6.82
METALIMNION				
	1989	6.05	6.54	6.30
	1990	5.39	6.58	5.79
	1991	6.56	6.72	6.61
	1992	6.44	7.19	6.62
	1993	6.59	6.68	6.63
	1994	6.22	6.63	6.35

Table 4.

CRYSTAL LAKE
GILMANTON

Station	Year	Minimum	Maximum	Mean
	1995	6.21	6.74	6.41
	1996	5.99	6.10	6.05
	1997	6.13	6.22	6.19
	1998	5.84	5.98	5.92
	1999	5.83	6.20	6.03
	2000	6.05	6.09	6.07
NAT'S BRIDGE BK				
	1989	6.51	6.96	6.70
	1990	6.30	6.74	6.43
	1991	6.25	6.50	6.38
	1992	6.27	6.41	6.34
	1993	6.29	6.34	6.31
	1994	6.27	6.48	6.40
	1995	6.48	6.64	6.53
	1996	6.25	6.47	6.34
	1997	6.21	6.50	6.33
	1998	6.23	6.30	6.27
	1999	6.16	6.50	6.31
	2000	6.38	6.59	6.45
OUTLET				
	1989	6.44	6.79	6.61
	1990	6.57	6.80	6.67
	1991	6.68	6.90	6.76
	1992	6.74	6.82	6.79
	1993	6.73	6.90	6.78
	1994	6.58	6.79	6.67

Table 4.

CRYSTAL LAKE
GILMANTON

Station	Year	Minimum	Maximum	Mean
	1995	6.63	6.96	6.71
	1996	6.53	6.53	6.53
	1997	6.44	6.78	6.63
	1998	6.42	6.63	6.51
	1999	6.45	6.73	6.55
	2000	6.57	6.64	6.61
THE BROOK				
	1989	6.16	6.16	6.16
	1990	6.35	6.35	6.35
	1991	6.35	6.40	6.37
	1992	6.12	6.42	6.27
	1993	6.25	6.29	6.27
	1994	6.33	6.38	6.36
	1995	6.01	6.50	6.20
	1996	6.18	6.50	6.33
	1997	6.34	6.46	6.38
	1998	6.01	6.43	6.23
	1999	6.18	6.49	6.31
	2000	6.18	6.51	6.33
WOOD BRIDGE BK				
	1989	6.70	7.05	6.87
	1990	6.72	6.92	6.81
	1991	6.80	7.06	6.87
	1992	6.61	6.91	6.77
	1993	6.70	6.89	6.81
	1994	6.66	6.81	6.72

Table 4.

CRYSTAL LAKE
GILMANTON

Station	Year	Minimum	Maximum	Mean
	1995	6.50	6.94	6.73
	1996	6.53	6.72	6.59
	1997	6.67	6.90	6.77
	1998	6.51	6.66	6.60
	1999	6.56	6.79	6.68
	2000	6.65	6.68	6.67

Table 5.

CRYSTAL LAKE GILMANTON

Summary of current and historical Acid Neutralizing Capacity. Values expressed in mg/L as CaCO .

Epilimnetic Values

Year	Minimum	Maximum	Mean
1989	4.00	4.20	4.07
1990	2.90	4.70	3.83
1991	3.80	3.90	3.83
1992	4.20	4.60	4.33
1993	3.60	5.20	4.17
1994	3.70	8.60	5.50
1995	4.10	4.30	4.17
1996	2.10	3.80	2.93
1997	2.10	4.30	3.27
1998	3.10	3.60	3.33
1999	3.00	3.70	3.38
2000	3.70	4.10	3.90

Station	Year	Minimum	Maximum	Mean
COVERED BRIDGE BK				
	1989	27.1	29.6	28.6
	1990	26.7	29.8	27.8
	1991	30.3	32.5	31.0
	1992	25.1	30.5	27.9
	1993	27.1	31.9	29.5
	1994	28.2	33.9	31.8
	1995	30.0	32.3	31.4
	1996	30.8	34.0	31.8
	1997	30.4	33.9	31.7
	1998	26.8	30.2	28.8
	1999	33.6	37.6	35.7
	2000	29.7	34.8	32.5
DAM OUTLET				
	1994	29.2	29.2	29.2
EPILIMNION				
	1989	29.0	30.2	29.5
	1990	28.5	30.3	29.4
	1991	29.4	30.0	29.7
	1992	29.6	30.9	30.2
	1993	28.4	29.7	28.9
	1994	29.8	30.5	30.0
	1995	29.6	30.2	29.9
	1996	28.1	29.6	29.0
	1997	26.8	26.9	26.8

CRYSTAL LAKE GILMANTON

Table 6.

Station	Year	Minimum	Maximum	Mean
	1998	25.7	26.8	26.2
	1999	29.9	30.8	30.4
	2000	29.6	30.0	29.9
HYPOLIMNION				
	1989	30.5	33.6	32.4
	1990	30.7	32.3	31.6
	1991	30.1	38.9	33.6
	1992	31.6	35.0	33.5
	1993	28.8	33.2	31.0
	1994	29.5	34.7	31.6
	1995	31.0	34.1	32.2
	1996	29.5	33.2	31.4
	1997	27.1	30.3	29.0
	1998	28.9	32.5	30.9
	1999	31.0	43.9	35.6
	2000	30.5	34.2	32.2
JOHN BURDETTE				
	1991	30.1	30.1	30.1
METALIMNION				
	1989	29.1	30.8	29.8
	1990	28.4	30.2	29.4
	1991	28.8	30.1	29.5
	1992	30.1	31.1	30.6
	1993	28.9	30.5	29.7
	1994	29.6	30.2	29.9

Station	Year	Minimum	Maximum	Mean
	1995	29.2	29.8	29.4
	1996	28.0	29.9	29.2
	1997	26.2	27.8	26.8
	1998	25.7	31.3	28.4
	1999	30.3	31.2	30.7
	2000	30.1	32.3	31.1
NAT'S BRIDGE BK				
	1989	28.1	28.6	28.2
	1990	29.3	33.4	30.9
	1991	32.0	39.5	36.9
	1992	31.5	33.8	32.3
	1993	30.8	35.4	33.6
	1994	31.9	36.0	33.3
	1995	31.2	32.1	31.5
	1996	32.0	32.7	32.3
	1997	27.1	31.1	29.3
	1998	26.2	27.0	26.7
	1999	30.7	33.2	31.8
	2000	27.4	31.2	29.5
OUTLET				
	1989	30.4	31.7	31.2
	1990	29.4	31.4	30.2
	1991	29.8	32.3	30.8
	1992	31.0	31.1	31.0
	1993	28.4	30.7	29.6

CRYSTAL LAKE GILMANTON

Specific conductance results from current and historic sampling seasons. Results in uMhos/cm.

Table 6.

Station	Year	Minimum	Maximum	Mean
	1994	29.2	30.3	29.7
	1995	29.3	30.7	30.1
	1996	30.0	31.3	30.5
	1997	26.8	27.9	27.5
	1998	25.4	26.9	26.2
	1999	28.9	32.4	30.5
	2000	30.4	30.9	30.6
THE BROOK				
	1989	23.6	23.6	23.6
	1990	24.8	24.8	24.8
	1991	26.3	29.7	27.4
	1992	22.1	23.6	22.7
	1993	22.0	28.7	25.3
	1994	24.0	28.3	26.6
	1995	25.9	84.8	46.4
	1996	23.6	26.8	24.9
	1997	25.3	26.4	25.9
	1998	19.4	27.0	23.0
	1999	25.4	30.9	28.1
	2000	19.8	24.6	22.9
WOOD BRIDGE BK				
	1989	26.6	28.1	27.4
	1990	26.4	30.1	28.3
	1991	27.1	30.8	28.6
	1992	26.4	28.1	27.3
	1993	25.4	27.6	26.5

Station	Year	Minimum	Maximum	Mean
	1994	26.7	29.0	27.5
	1995	26.6	28.7	27.7
	1996	27.2	28.8	27.9
	1997	25.1	28.1	26.3
	1998	24.9	28.9	26.4
	1999	27.9	31.2	29.7
	2000	26.9	27.6	27.3

Station	Year	Minimum	Maximum	Mean
COVERED BRIDGE BK				
	1989	8	14	10
	1990	9	28	16
	1991	8	13	11
	1992	9	13	10
	1993	8	14	10
	1994	10	16	13
	1995	6	9	7
	1996	7	12	10
	1997	11	14	12
	1998	4	16	9
	1999	4	12	7
	2000	< 5	8	6
DAM OUTLET				
	1994	10	10	10
EPILIMNION				
	1989	5	13	10
	1990	4	16	10
	1991	6	11	8
	1992	7	8	7
	1993	4	48	19
	1994	9	14	10
	1995	4	8	6
	1996	7	12	10
	1997	3	8	6

Station	Year	Minimum	Maximum	Mean
	1998	6	25	12
	1999	4	6	5
	2000	< 5	6	5
HYPOLIMNION				
	1989	6	13	9
	1990	8	27	14
	1991	10	16	13
	1992	8	14	10
	1993	10	18	13
	1994	10	20	14
	1995	5	13	9
	1996	9	17	13
	1997	9	13	11
	1998	6	26	14
	1999	8	12	10
	2000	< 5	11	7
JOHN BURDETTE				
	1991	12	12	12
METALIMNION				
	1989	11	12	11
	1990	7	11	9
	1991	8	12	9
	1992	7	9	8
	1993	9	36	18
	1994	10	12	11

Station	Year	Minimum	Maximum	Mean
	1995	5	11	7
	1996	9	14	11
	1997	6	16	11
	1998	6	25	12
	1999	7	13	10
	2000	5	8	6
NAT'S BRIDGE BK				
	1989	17	22	19
	1990	22	42	29
	1991	35	52	44
	1992	31	35	33
	1993	39	44	40
	1994	34	42	38
	1995	28	31	29
	1996	31	44	36
	1997	30	55	40
	1998	25	31	28
	1999	33	36	34
	2000	15	29	22
OUTLET				
	1989	8	18	12
	1990	9	13	11
	1991	8	10	9
	1992	8	9	8
	1993	8	39	19

Station	Year	Minimum	Maximum	Mean
	1994	19	60	39
	1995	8	10	8
	1996	8	10	9
	1997	2	18	9
	1998	5	23	12
	1999	9	13	11
	2000	6	8	7
THE BROOK				
	1989	30	30	30
	1990	64	64	64
	1991	41	86	57
	1992	24	34	30
	1993	25	51	38
	1994	37	50	45
	1995	37	74	54
	1996	46	83	62
	1997	6	72	43
	1998	41	49	44
	1999	30	101	65
	2000	8	39	23
WOOD BRIDGE BK				
	1989	16	21	18
	1990	16	24	19
	1991	14	24	18
	1992	16	20	17
	1993	14	46	27

Station	Year	Minimum	Maximum	Mean
	1994	12	265	115
	1995	9	13	11
	1996	10	16	13
	1997	10	19	13
	1998	8	50	23
	1999	10	16	13
	2000	7	10	8

Current year dissolved oxygen and temperature data.

Depth (meters)	Temperature (celsius)	Dissolved Oxygen (mg/L)	Saturation (%)
		July 13, 2000	
0.1	22.8	7.8	90.8
1.0	22.7	7.7	89.4
2.0	22.3	7.7	88.5
3.0	22.2	7.7	87.9
4.0	22.1	7.6	86.6
5.0	20.7	7.2	80.0
6.0	16.2	4.5	45.3
7.0	13.1	2.7	26.1
8.0	11.8	3.6	33.2
9.0	11.2	3.4	31.4
10.0	10.7	3.2	29.1
11.0	10.2	3.4	30.6
12.0	10.1	3.4	30.2
13.0	9.8	3.1	27.3
14.0	9.6	2.7	23.3
15.0	9.5	2.3	20.2
16.0	9.3	1.5	12.8

Table 10.

CRYSTAL LAKE
GILMANTON

Historic Hypolimnetic dissolved oxygen and temperature data.

Date	Depth (meters)	Temperature (celsius)	Dissolved Oxygen	Saturation
June 28, 1989	11.5	8.9	7.0	61.0
August 3, 1989	15.0	7.8	1.4	11.0
June 21, 1990	15.0	7.2	6.4	52.8
June 10, 1991	16.0	9.8	4.3	37.8
July 20, 1992	14.0	7.9	3.4	28.5
July 8, 1993	13.5	7.8	2.7	22.0
July 26, 1994	14.0	10.2	1.0	9.0
July 24, 1995	15.0	9.5	2.1	18.0
July 9, 1996	16.0	9.4	2.6	22.0
August 5, 1997	16.0	10.9	0.4	4.0
July 27, 1998	15.0	8.4	0.4	3.0
July 20, 1999	15.0	9.6	0.2	2.0
July 13, 2000	16.0	9.3	1.5	12.8

Summary of current year and historic turbidity sampling. Results in NTU's.

Station	Year	Minimum	Maximum	Mean
COVERED BRIDGE BK				
	1997	0.1	0.3	0.2
	1998	0.2	0.6	0.4
	1999	0.1	0.5	0.3
	2000	0.2	0.4	0.3
EPILIMNION				
	1997	0.2	0.5	0.3
	1998	0.4	0.5	0.4
	1999	0.3	0.4	0.4
	2000	0.3	0.4	0.3
HYPOLIMNION				
	1997	0.5	4.5	3.0
	1998	0.4	5.1	2.7
	1999	0.9	2.9	1.6
	2000	0.4	5.3	2.1
METALIMNION				
	1997	0.4	0.5	0.5
	1998	0.5	0.6	0.5
	1999	0.8	1.2	1.1
	2000	0.4	1.5	0.8
NAT'S BRIDGE BK				
	1997	2.0	2.4	2.2
	1998	1.1	2.1	1.6
	1999	1.4	3.3	2.6
	2000	1.0	1.8	1.4

Summary of current year and historic turbidity sampling. Results in NTU's.

Year	Minimum	Maximum	Mean
1997	0.4	0.5	0.4
1998	0.4	0.6	0.5
1999	1.0	1.1	1.0
2000	0.6	0.7	0.6
1997	0.4	0.6	0.4
1998	0.4	0.8	0.7
1999	0.8	1.7	1.2
2000	0.2	0.6	0.4
1997	0.2	0.3	0.3
1998	0.4	0.6	0.4
1999	0.3	0.5	0.4
2000	0.3	0.5	0.4
	1997 1998 1999 2000 1997 1998 1999 2000	1997 0.4 1998 0.4 1999 1.0 2000 0.6 1997 0.4 1998 0.4 1999 0.8 2000 0.2 1997 0.2 1998 0.4 1999 0.3	1997 0.4 0.5 1998 0.4 0.6 1999 1.0 1.1 2000 0.6 0.7 1997 0.4 0.6 1998 0.4 0.8 1999 0.8 1.7 2000 0.2 0.6 1997 0.2 0.3 1998 0.4 0.6 1999 0.3 0.5